

# Paramraj Singh Machre

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## SUMMARY

Entry-level Software Engineer passionate about building scalable, user-centric systems. Experienced in backend and full-stack development using Python, Java, Node.js, and AWS, with hands-on AI/ML projects applying model deployment. Proven ability to lead technical projects, drive optimizations, and deliver results in collaborative and agile environments.

## EDUCATION

University of Maryland, College Park (UMD)

Aug. 2021 – May 2025

Bachelor of Science in **Computer Science**, Minor in **History**

- **Awards:** Dean's List for Outstanding Students (Dec. 2021, Dec. 2023)
- **Relevant Coursework:** Object Oriented Programming (OOP), Statistics, Algorithms, Data Science, Web Dev, Advanced Data Structures, Databases, Computer Vision, Network Security, Functional Programming

## TECHNICAL SKILLS

**AI/ML:** NLP, k-NN, SVMs, XGBoost, Regression, Clustering, Classification, YOLO, Eigenfaces, Sentiment Analysis

**Languages:** Python, Java, JavaScript/TypeScript, Kotlin, Ruby, HTML/CSS, C, C++

**Frameworks:** MongoDB, AWS, React, Next.js, Node.js, Express, RESTful APIs, MySQL/PostgreSQL, NoSQL

**Libraries:** Pandas, NumPy, Matplotlib, TensorFlow, PyTorch, Keras, OpenCV

**Tools:** Git, GitHub, Postman, Docker, Jira, Confluence, Tableau, Streamlit, Figma, Android Studio, Excel

## EXPERIENCE

DevCorp LLC

Sept. 2025 – Present

Founding Software Developer

Rockville, MD

- Standardized a reusable **Node/Express** starter and **CI/CD pipelines with GitHub Actions**; reduced idea-to-deploy time by **55%**, enabled **<15-minute** service bootstraps, and achieved **35%** code reuse.
- Ran **Agile/Scrum** delivery (two-week sprints in **Jira**, docs in **Confluence**, flows in **Miro**); enforced branch protections, PR templates, and **Jest/Supertest unit/integration tests** +40% first-pass approvals.
- Established security baselines: **JWT authentication**, **RBAC authorization**, input validation, **rate limiting**; health endpoints, structured logs, and **Vercel serverless** deploys—**99.9%** availability and **0** security issues.

Snowflake Inc.

May 2024 – Aug. 2024

Software Developer Intern

Dublin, CA

- Built a **JUnit** regression suite spanning **16** scenarios and **200+** JSON contract types; **reduced test runtime 87%** and prevented **12** pre-production defects via **test automation** and schema validation.
- Developed a **Streamlit** diagnostics UI (Python + **Snowpark/SQL**) to visualize procedure runs, inputs/outputs, and diffs; **cut engineer query time 45%** and onboarded **12+** internal users.
- Optimized a month-end finance batch by profiling hot paths, batching I/O, and vectorizing **SQL**; delivered a **94% runtime improvement**, eliminated timeouts, and stabilized **CI/CD pipelines**.
- Added structured event logging and error codes; produced runbooks to improve **observability** and reduce time to diagnose to about **20 min**.

Maryland Club Climbing

Jan. 2024 – Dec. 2024

President

College Park, MD

- Led **75+** members with structured training and safety protocols; increased average session attendance by **34%** and achieved **Top-3** placements in **3/4** intercollegiate meets.

## PROJECTS

Terp Notes

github.com/bennytobby/terp-notes | terp-notes.org

*Express, MongoDB Atlas, AWS S3, EJS/JS, Helmet, Resend, VirusTotal API, express-rate-limit*

- Built a **notes-sharing platform** serving **50+** users with **REST APIs**, **direct S3 uploads** (pre-signed URLs), **VirusTotal** scanning, and **SHA-256** deduplication; **60%** storage saved with **0** security incidents.
- Improved dashboard responsiveness using **client-side filtering** and compound indexes; decreased load from **2.0s** to **0.6s** (**70%** faster) and enabled **instant** search; deployed on **Vercel**.

Electronic Document Management System (EDMS)

github.com/bennytobby/edms | edms-blue.vercel.app

*Node.js, Express, MongoDB, AWS S3, EJS/CSS, Bcrypt, JWT, Nodemailer, GitHub Actions, Jest*

- Engineered a secure **full-stack EDMS** with **JWT auth**, **RBAC**, and **pre-signed S3 URLs**, protecting **10+** accounts and improving large-file throughput by **30%** across **100+** uploads.
- Delivered an **admin dashboard** with audit logs and alerts; set up **CI/CD with GitHub Actions** and **Jest** gates sustaining **95%+** pass rates and consistent **Vercel** releases.

## CERTIFICATIONS

**AI/ML:** AI For Everyone, Getting Started with AI, Microsoft Azure AI Fundamentals

Jul 2025

**Cloud:** AWS Certified Cloud Practitioner, AWS Certified Developer – Associate

In Progress